CONCLUSIONS IFNγ may amplify the cascade of PKC signaling pathways and upregulate the expression of ACAT-1, and then promote the uptake, synthesis and esterification of cholesterol in RAW264.7 macrophages loaded or unloaded oxLDL.

GW26-e0225

Knock Down of PRKCI by siRNA Promoted Low Density Lipoprotein Production in Rat Myocardial Cells In Vitro

Lin Fan,[1] Weiying Liu,[2] Yushuang Yang,[1] Dongna Liu,[1] Fanbo Meng[1]
[1]Department of Cardiology, China-Japan Union Hospital, Jilin University, Changchun, China; [2]Laboratory Animal Center of Jilin University, Changchun, China

OBJECTIVES Our previous gene chip study in the patients with coronary heart disease suggested that protein kinase C,iota (PRKCI) gene had low expression in the peripheral blood cells, which was contrary to previous notion that PRKCI promotes lipogenesis. We thought that PRKCI gene may affect the process of the occurrence of coronary heart disease. The aim of this study is to examine the function of PRKCI in lipid metabolism in rat myocardial cells (H9C2).

METHODS RNA interference (RNAi) vector targeting PRKCI and GFP empty vector were transfected into H9C2 to specifically knockdown the expression of PRKCI, GFP empty vector was used as the negative control. Culture medium was collected before transfection, 12h, 24h, 36h and 48h after transfection. The expression of green fluorescence protein was monitored under an inverted fluorescence microscope after transfected of 24h. The mRNA and protein levels, the low density lipoprotein (LDL) content in the supernatant of H9C2 cells were analyzed by spectrophotometry, RT-PCR, Western blot, and ELISA after transfection 48h, respectively before and after siRNA transfection.

RESULTS The result of green fluorescence showed that the vectors were transfected into H9C2 successfully, and had no difference in transfection efficiency. The results of real-time RT-PCR using 2-ΔΔCtmethod showed the relative expression of RNAi vector plasmids compared with the GFP control cells was 0.3185. It meant that the mRNA expression of PRKCI indeed decreased after transfected with siRNA. The concentrations of total protein of positive cells and negative control cells were determined by an ultraviolet spectrophotometer. There were no significant difference between the two cell populations (respectively 4.69±0.49 mg/mL,4.47±0.52 mg/mL), which indicated that PRKCI siRNA did not affect total protein synthesis in H9C2. The results of Western testing by Adobe Photoshop CS4 showed that the relative PRKCI protein expression of RNAi vector plasmids compared with the GFP control cells was 0.6634, which showed that the expression of PRKCI protein obviously decreased after specifically interfered by siRNA. The results of ELISA showed that there were no significant difference between the two cell populations in LDL content before transfection (respectively 4.043±0.372 ug/mL, 4.123±0.140 ug/mL). But the LDL content in control cells remained relatively constant over time (respectively 4.103±0.311 ug/mL, 3.987±0.133 ug/mL, 4.191±0.0716 ug/mL,3.891±0.160 ug/mL), whereas the content in siRNA transfected cells increased over time (respectively 4.833±0.0898 ug/mL, 5.324±0.211 ug/mL, 6.023±0.131 ug/mL, 5.585±0.569 ug/mL), which suggested that PRKCI is involved in lipid metabolism, and accompanying the mRNA and protein levels of PRKCI decreased with the LDL content increased after siRNA transfection.

CONCLUSIONS Knocking down the expression of PRKCI increased LDL production in rat myocardial cells. The expression of PRKCI may takes effect on the progression of coronary heart disease in part.

GW26-e0805

Intracoronary and Retrograde Coronary Venous Myocardial Delivery of Adipose-Derived Stem Cells in Swine Infarction Lead to Transient Myocardial Trapping With Predominant Pulmonary Redistribution

Jie Qin, Xiuzhen Chen, Yuefei Guo, Xuelian Liu
Department of Radiology, the Third Affiliated Hospital of Sun Yat-sen University

OBJECTIVES To examine the comparative fate of adipose-derived stem cells (ASCs) as well as their impact on coronary microcirculation following either retrograde coronary venous (RCV) or arterial delivery.

METHODS In an initial experiment, dose-dependent effects of ASC delivery on coronary circulation in normal swine were evaluated to establish a tolerable ASC dosing range for intracoronary (IC) delivery. In a set of subsequent experiments, an anterior acute myocardial infarction (AMI) was created by balloon occlusion of the proximal left anterior descending (LAD) artery, followed by either IC or RCV infusion of 10(7) (111)Indium-labeled autologous ASCs 6 days following AMI. Indices of microcirculatory resistance (IMR) and coronary flow reserve (CFR) were measured before sacrifices to collect tissues for analysis at 1 or 24 hr after cell delivery.

RESULTS IC delivery of porcine ASCs to normal myocardium was well tolerated up to a cumulative dose of 14×10^6 cells (approximately 0.5×10^6 cells/kg). There was evidence suggesting microcirculatory trapping of ASC: at unit doses of 50×10^6 ASCs, IMR and CFR were found to be persistently altered in the target LAD distribution at 7 days following delivery, whereas at $10 \times 10(6)$ ASCs, only CFR was altered. In the context of recent MI, a significantly higher percentage of ASCs was retained at 1 hr with IC delivery compared with RCV delivery (57.2 ± 12.7% vs. 17.9 ± 1.6%, P = 0.037) but this initial difference was not apparent at 24 hr (22.6 ± 5.5% vs. 18.7 ± 8.6%; P = 0.722). In both approaches, most ASC redistributed to the pulmonary circulation by 24 hr postdelivery. There were no significant differences in CFR or IMR following ASC delivery to infarcted tissue by either route.

CONCLUSIONS Selective intravascular delivery of ASC by coronary arterial and venous routes leads to similarly limited myocardial cell retention with predominant redistribution of cells to the lungs. IC arterial delivery of ASC leads to only transiently greater myocardial retention, which is accompanied by obstruction of normal regions of coronary microcirculation at higher doses. The predominant intrapulmonary localization of cells following local delivery via both methods prompts the notion that systemic delivery of ASC might provide similarly beneficial outcomes while avoiding risks of inadvertent microcirculatory compromise.

GW26-e2165

Gender-Related Differences in Patients with Acute Aortic Dissection From Xin Jiang

Buamina Maitusong, Maisumu Mahemuti, Yitong Ma
Department of Cardiology, First Affiliated Hospital of Xinjiang Medical University, Urumqi, P.R. China

OBJECTIVES To investigate gender-related differences in incidence, clinical manifestation, and outcomes in patients with aortic dissection (AD).

METHODS Retrospective analysis of 400 patients with acute aortic dissection, receiving conservative medical treatment or aortic surgery at the First Affiliated Hospital of Xinjiang Medical University of, from January 2008 to May 2012, which 304 cases of male and 96 cases of female. Divided into two groups of men and women, and clinical characteristics and treatment outcomes of the two groups of patients were retrospectively analyzed by sex.

RESULTS 304 cases of male and 96 cases of female respectively accounted for 76% and 24%. Male to female ratio of 3.18:1. Although less frequently affected by AAD, women were significantly older and had more often (female 54.21±12.38, male 49.62±12.63, P=0.0019). Male group of smoking is higher than the female group, (55.9%:4.17%, P<0.001). Diabetes, coronary heart disease, hypertension, atherosclerosis, Marfan syndrome, bicuspid aortic valve, aortic aneurysm, heart surgery History included coronary PCI surgery, valve replacement surgery, coronary bypass surgery, and other factors etiology was no statistical difference between two groups. Clinical symptoms of chest pain, back pain, radiating pain, abdominal pain, bloating, vomiting, hemoptysis, blood in the stool was no statistical difference between two groups of patients. Sudden pain in the proportion of female common than male patient (96.88%:87.83%, P=0.02). The symptoms of irritable male more common (17.43%> 6.25%, P=0.01). Drowsiness, coma and other psychiatric symptoms There was no statistical difference between two groups. The new Q waves or ST-segment elevation of ECG showed male is more common. (6.91%:3.13%, P=0.03). The pleural effusion Men more common than women (11.8%:3.3%, P =0.009). The aortic shadow widened, the widened mediastinum atelectasis, pneumonia and other chest X-ray findings of the two groups was no significant difference. Celiac trunk dissection and superior mesenteric artery dissection men more common than women (26.32%:11.46%, P=0.003; 17.11%:7.29%, P=0.028). Aortic intramural hematoma common in female (10.86%:21.88%, P=0.009). The cumulative coronary artery, aortic arch, the left and right renal artery, the internal and external iliac artery that affected by Aortic dissection in no significant difference between two groups. Type A dissection in women was associated with a higher surgical mortality of 27.08% versus 19% in men.